

## REMARKS

### Status of Claims

Claims 1-12 are pending, of which claims 1, 9 and 10 are independent.

Claim 1 has been amended to correct informalities in the claim language and to more clearly define the claimed subject matter. Claims 9-12 have been added. Support for the new claims is found, for example, at Examples 14-17 and 26-28, and Tables 3 and 5 of the specification. No new matter has been added.

### Rejection under 35 U.S.C. §§ 102/103

Claims 1-8 were rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being obvious over KR 10-2002-0063681 (KR '681). These rejections are traversed for at least the following reasons.

The Examiner asserts that KR '681 discloses Li-P-O-Si-N as a solid electrolyte. Although KR '681 fails to expressly disclose the fractions a, b, c, d, e in the present claims, the Examiner asserts that KR '681 inherently discloses the claimed range of these fractions. Specifically, the Examiner asserts that the weight ratio between the phosphorus and silicon in the sputtering target is proportioned relative to each other and the sputtering composite target is then sputtered in the presence of nitrogen to form the Li-P-O-Si-N film.

Applicants respectfully submit that the amount of N (e=0.01-0.5) in the claims is not the amount which **necessarily** flows from the disclosure of KR '681 because nitrogen (N) is not included in the sputtering target. Applicants respectfully submit that the Examiner fails to provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. *Ex*

*parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). Since nitrogen is not included in the sputtering target, the Examiner's "proportion-to-target theory" has no merit. Mere presence of nitrogen in the sputtering atmosphere does not necessarily yield the amount of N of 0.01-0.5. Further, Applicants respectfully submit that the present subject matter can prevent decreasing on ion conductivity during storage under a wet atmosphere (see, Example 3-10 in Table 2, and Examples 2 and 11-18 in Table 3 of the present specification). For example, when  $c=0.01-0.99$ , decreasing of the ion conductivity is significantly prevented, which clearly shows criticality of the claimed range of "c" and unexpected results associated therewith. The present subject matter also can prevent degrading of the solid electrolyte during storage under a wet atmosphere (see, Examples 34-41 in Table 8 of the present specification). It is clear that KR '681 fails to recognize or even suggest that above identified problems, solutions and effects disclosed in the present application. Thus, it would not have been obvious to modify KR '681 to arrive at the subject matter of claim 1 by adjusting the composition of Li-P-O-Si-N.

As such, it is clear that KR '681 neither anticipates claim 1 nor renders claim 1 obvious. Accordingly, claim 1 is patentable over KR '681. Since claims 2-8 depend upon claim 1, these claims are also patentable over KR '681 for at least the same reasons as claim 1.

### **New Claims**

Regarding new claim 9, Applicants incorporate herewith the argument previously advanced in traversal of the rejection under 35 U.S.C. §§ 102/103 predicated upon KR '681. Since claim 9 recites, for example,  $c=0.01-0.99$  and  $e=0.01-0.50$ , claim 9 and claim 11 dependent thereon are patentable over Kr '681 for at least the same reasons as claim 1.

Regarding new claim 10, Applicants incorporate herewith the argument previously advanced in traversal of the rejection under 35 U.S.C. §§ 102/103 predicated upon KR '681. Further, Applicants submit that since KR '618 uses  $\text{Li}_3\text{PO}_4$  and  $\text{Li}_2\text{PO}_3$  as the sputtering target, the Li ratio "a" in the product of KR '681 would be less than 3. In contrast, claim 10 recites a = 3.0 to 3.7. In the present application, since  $\text{Li}_3\text{PO}_4$  and  $\text{Li}_2\text{PO}_3$  are used, the Li ratio "a" can be 3 or more. By setting the Li ratio "a" 3.0-3.7, the decreasing in ion conductivity is more effectively prevented than in the case of Li ratio "a" less than 3 (see, Examples 14-17 in Table 3 of the specification). As such, claim 10 and claim 12 dependent thereon are patentable over Kr '681 for this reason in addition to the reasons set forth above.

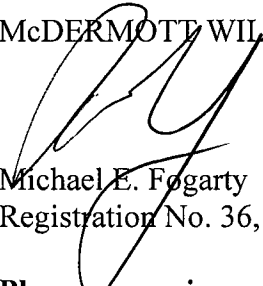
**CONCLUSION**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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